U.S. Environmental Protection Agency Office of Research and Development

BOARD OF SCIENTIFIC COUNSELORS

Conference Call Summary May 5, 2005 1:00 p.m. – 3:00 p.m. EDT

Welcome and Overview

Dr. Jim Johnson (Howard University), Chair of the Board of Scientific Counselors (BOSC), welcomed the Executive Committee members to the call and asked the participants to introduce themselves. A list of the participants is attached to this summary. Dr. Johnson explained that the purpose of the conference call was to review the draft report of the Ecological Research Program Review prepared by the Ecological Research Subcommittee. Dr. Johnson stated that Drs. Clifford Duke (The Ecological Society of America) and Herb Windom (Skidaway Institute of Oceanography) would lead the discussion of the report following a brief overview by Dr. Michael Clegg (University of California–Irvine), the Chair of the Ecological Research Subcommittee.

DFO Remarks

Lorelei Kowalski (EPA/ORD), Designated Federal Officer (DFO) for the BOSC Executive Committee, stated that the BOSC is a Federal Advisory Committee and subject to the rules of the Federal Advisory Committee Act (FACA). Therefore, this conference call was open to the public and time was designated for public comment. Ms. Kowalski asked the members to notify her if they have any potential conflicts of interest. She asked the members to submit their homework sheets to her as soon as possible. Because the summary of the call will be posted on the BOSC Web Site, Ms. Kowalski asked the members and others making comments to identify themselves for the record.

Overview of the Ecological Research Subcommittee Draft Report

Dr. Clegg provided an overview of the subcommittee's report, highlighting the key elements of the review and the major conclusions and recommendations. He began by describing the process used to conduct the review and develop the report. The subcommittee was created to conduct a program review of EPA's Ecological Research Program at the request of the Assistant Administrator for Research and Development (AA/ORD). The subcommittee held three public conference calls (in February, March, and April 2005) and a 3-day site visit at EPA's facilities in Research Triangle Park (RTP), North Carolina, which was held March 7-9, 2005.

An extensive amount of material on the research program was provided to the subcommittee members and numerous presentations and posters describing the research efforts were presented at the site visit in RTP. During the site visit, the subcommittee developed a preliminary draft

report of the program review and this report was finalized by the subcommittee during the April 1, 2005 conference call.

Dr. Clegg stated that the report is a result of reviewing the materials provided to the subcommittee and the presentations, posters, and discussions from the 3-day site visit. The subcommittee included three members of the BOSC Executive Committee and five outside experts. The subcommittee members were knowledgeable, timely, and effective.

Dr. Clegg provided some background information about previous reviews of the Ecological Research Program. The program received a "Results Not Demonstrated" rating from the Program Assessment Rating Tool (PART) review conducted by the Office of Management and Budget (OMB). Because of this rating, an external review appeared in order to more fully assess the strengths and weaknesses of the program. Therefore, a major purpose of the BOSC review was to assist the Ecological Research Program to adapt to new requirements and expectations as it works to meet its goals. The BOSC review was conducted within a very short timeframe because the next PART review was scheduled for April-May 2005. Dr. Clegg indicated that the subcommittee members were very impressed with the work conducted under the program and its success given the extreme budget constraints and funding reductions. There is no current multi-year plan (MYP) for this program because the previous MYP is being modified as a result of the "Results Not Demonstrated" rating in the previous PART review. One major change in the MYP is a reduction in the number of long-term goals (LTGs).

The subcommittee's review was structured around the three LTGs of the program. The subcommittee examined each LTG in the context of the eight charge questions that were provided to the subcommittee by the BOSC. The subcommittee composed the report around the LTGs and the charge questions relevant to each goal. The report includes an executive summary that highlights the subcommittee's conclusions and recommendations, an introduction, and chapters on relevance, quality, performance, leadership, collaboration, resources, and integration and future directions.

The Executive Summary was divided into three sections: Structure of the Program Review, Objectives of the Review, and Conclusions and Recommendations. Dr. Clegg mentioned a number of the subcommittee's conclusions and recommendations. The subcommittee found the Ecological Research Program to be a high-quality scientific program that is providing essential technical information to the regulatory offices within EPA as well as to state, local, and tribal governments to assist them in addressing novel programs of environmental management. Dr. Clegg noted that the subcommittee included representatives from states and nongovernmental organizations (NGOs), which brought those perspectives into the review. The program also is developing major tools for measuring environmental health, and these tools are being adopted in the field. The quality of the program science is high and program leadership appears to be very good. Dr. Clegg mentioned that there were a few areas in the program that could be improved. These areas included: better integration of the LTGs, more emphasis on collaboration between EPA scientists and those outside the Agency to leverage resources, improved processes designed to facilitate communication between the program and its stakeholders, implementation of a formal performance evaluation to assess the integration of the various research projects in the context of the LTGs, better articulation of the program's research goals and priorities, and

development of a new MYP that aligns with current resource constraints and better integrates the three LTGs. In addition, the program has implemented a short-term solution (i.e., reduction of extramural program funds) to deal with the budget reductions, but the subcommittee believes that the long-term impact of this short-term solution threatens to disproportionately reduce the program's effectiveness. A long-term equilibrium that balances the research portfolio against expected resource constraints is needed.

Dr. Johnson thanked Dr. Clegg for his overview of the report and asked Dr. Duke and Dr. George Lambert (University of Medicine and Dentistry of New Jersey) to lead the discussion of the report. He explained that these two individuals had agreed to give the report a more thorough review and to lead the discussion of the report.

Discussion of the Report

Dr. Duke provided some overarching comments on the report. He thought the report was very well written and did an excellent job of reviewing the program; however, he thought the linkage between the research and its application and use was rather weak for LTGs 2 and 3. Dr. Duke noted that the subcommittee's report did not make it clear that the research is being translated into applications. He also stated that it is not clear whether ORD has the resources to accomplish such translation. Dr. Clegg replied that this was a reasonable comment, noting that the subcommittee struggled with this issue. He stated that the report reflects what the subcommittee heard or gleaned from the materials. The subcommittee members were not able to draw the connections as well as they would have liked so they used the boxes to present some examples of how the research is being used. Dr. Duke responded that the illustrations in the boxes were good and helped to draw some linkages.

Dr. Duke asked that the sentence on page 3, line 40, which begins "A major purpose of this review ..." should be added to the Executive Summary in the section entitled Objectives of the Review. Dr. Clegg agreed to make that change. Dr. Clegg suggested that the charge questions be refined and improved for future program reviews. Dr. Johnson agreed to add this topic to the agenda of the June BOSC meeting.

Dr. Lambert stated that the precision and perspective of the report is remarkable. In some sections, however, there was an imbalance between positive comments and criticisms. For example, on page 27, the first paragraph is a discussion of the positive attributes of the program and this is followed by a lengthy list of bullets, some of which are praises and others suggestions for improvement. Dr. Lambert suggested that the positive comments be aggregated and moved to the beginning of page 27. Dr. Clegg responded that the bullets are organized by the LTGs and followed the flow of the report.

Dr. Lambert noted that in several places the report describes the program as "good to high quality." He thought it may be better to state that the program is of high quality and could be improved by ... Dr. Clegg responded that the subcommittee did not rank the program as strictly high quality because of the lack of integration among the LTGs. Overall, the program may be high quality, but it does not rise to that level for all of the LTGs. Dr. Lambert suggested using the wording, "the program could be high quality with improvement in ...". He also proposed

including wording about the importance of communication. "The program can have a greater impact on the national agenda by improving its communication." He also thought it was important that the report specifically mention the public as a stakeholder. The first bullet on page 26 (lines 10-17) mentions other federal agencies, but there is no mention of other federal agencies in the body of the report. Dr. Lambert asked if the 2005 budget data were available. Dr. Clegg replied that the specific details (i.e., at the program level) of the 2005 budget were not available to the subcommittee at the time of the program review. Dr. Lambert asked Dr. Clegg to state that in the report. In closing his overarching comments, Dr. Lambert said he thought the report would be very useful to EPA and he suggested that the report highlight the positive attributes of the program, particularly in Chapter X: Findings and Recommendations.

Public Comment

Dr. Johnson paused the discussion to call for public comments. Ms. Kowalski asked if anyone had joined the call since the discussion began. She then called for public comments. No public comments were provided.

Discussion of the Report (Continued)

Dr. Johnson commented that he did not see a response to each of the sections of Question 6 (i.e., a through d) on page 18, lines 7-11 in the text of Chapter VI. There was a separate response for 6a and 6d but none for 6b and 6c. Dr. Clegg replied that each chapter was written by a work group and if there was no specific response to a question, then the members probably did not receive enough information to answer that question. Dr. Johnson asked that Dr. Clegg include that statement in the report to make it clear that the subcommittee did not just ignore the question.

Dr. Gary Sayler (University of Tennessee) asked about the sentence on page 7, lines 39-40 that begins "The ERP research represents major contributions... He asked the subcommittee to qualify that statement by giving specific examples. Dr. Johnson agreed that specific examples or references would be helpful.

Dr. Anna Harding (Oregon State University) asked about the tools being developed for tribes. She did not see any examples that specifically mentioned tribes. Did the subcommittee receive information about such tools during the review? Dr. Clegg responded that he did not recall anything specific about tools for tribes in the materials and presentations/posters. He noted that the Environmental Monitoring and Assessment Program (EMAP) benefits tribes as well as other stakeholders. Dr. Clegg said that he would have to go back and review the materials to documents specific examples with respect to tribes. He commented that the program is good at producing products but less advanced in getting the products used by the stakeholders. It is for this reason that the timeframe for LTG 3 is longer than for the other LTGs. Dr. Harding pointed out that LTG 2 clearly focuses on states and tribes applying the program's tools and methods. Is that happening or not? If not, then the report should state that inadequate information was provided to assess this or that the tools are not being used and the program needs to address this weakness. Dr. Clegg was concerned about stating this as a weakness of the program unless it is an accurate statement. He would need to verify this before including such a statement in the

report. He acknowledged that the program has developed useful tools, but the tools have not been extended to those who could and should use them. Dr. Clegg noted that the primary customer of the program is the regulatory arm of EPA. It may be more appropriate for those offices to promote the use of the program's tools.

Dr. Sayler asked about the international aspect of ecological research, which was not mentioned in the report. Dr. Clegg answered that there was very little mention of international efforts during the review. Dr. Clark suggested that the Executive Committee discuss this issue at the June meeting because it also came up at the Human Health Program Review site visit and the Computational Toxicology meeting. Dr. Clegg noted that international collaboration was not addressed in the charge questions so the subcommittee did not raise the issue. Dr. Johnson agreed to include this topic on the agenda of the June meeting.

<u>Comments on Executive Summary</u>. Dr. Duke thought it would be helpful to request comments on the report page by page, starting with the Executive Summary. Dr. Lambert suggested that the three LTGs be listed in the Executive Summary. He also mentioned that in the last paragraph on page 2 (lines 20-29), the report could emphasize that the reduction of the extramural support greatly decreases the flexibility of the program and its capacity to explore new research and technology.

<u>Comments on Introduction</u>. Dr. Harding thought the use of the term "failures" on page 3, line 40 may be too harsh. She proposed changing the wording to "strengths and weaknesses." Dr. Clegg agreed to make that change.

<u>Comments on Relevance</u>. Referring to page 7, lines 13-22, Dr. Duke said that he would like to see a more explicit response to Question 4e. This paragraph compliments the research quality but does not respond to the question about whether the research is meeting current and future needs. Dr. Johnson agreed that page 7, lines 13-22 do not respond to Question 4e. Dr. Lambert asked if the sentence on page 7, lines 21-22 that begins "Empirical testing of these indices..." refers to validation of the indices. That sentence may require clarification.

Dr. Duke commented that the first paragraph on page 8 (lines 1-5) does not relate to LTG 2 (i.e., tribes applying tools and methods). There is no link to the issue of application. Dr. Clegg replied that the paragraph is trying to address the PART review's distinction between outcomes and outputs. He added that there was a fine line between what was provided to the subcommittee and how it was interpreted. He asked if the sentence beginning with "This lack of an outcomesbased research paradigm..." should be removed from the report. Dr. Duke did not want the sentence removed but asked that there be a stronger link to application.

On page 9, Box 1, the fourth line in the third paragraph should read "... scenarios, but **decreased** most under..." with "decreased" replacing the word "increased." Also in the final paragraph of the box, it should be Institute **for** Natural Resources rather than Institute of Natural Resources.

<u>Comments on Scientific and Competitive Quality</u>. Dr. Duke noted that on page 10, line 7, the number for the question should be 3 not 2. On line 40, the commas after "by" and "to" should be removed. On page 12, line 8, Dr. Duke thought it was distracting to mention design quality

rather than address the LTG. He would prefer a stronger link to the goal. Dr. Clegg acknowledged that the subcommittee struggled with the issue of translating products to application. Figure 1 on page 12 was designed to illustrate the subcommittee's understanding of the links between the LTGs. Dr. Johnson asked that the sentence be deleted or rewritten to link to the goal. Dr. Clegg agreed to consult the subcommittee on how to revise the sentence. On page 13, line 10, it was suggested that the word "issues" be replaced with the word "factors." Referring to page 14, lines 8-11, the sentence beginning "As there are many ways...," Dr. Duke did not understand the distinction between criteria for project selection and criteria for how projects are accepted or initiated. Dr. Lambert thought the point of the sentence was that it is preferable to have criteria for project selection rather than rigid criteria that must be met for project acceptance/initiation. Dr. Duke asked that this sentence be clarified in the report.

Dr. Duke suggested that the response to Question 6b on page 16, lines 4-5 be amplified by providing an example. He suggested the same for the response to Question 8 (lines 16-18). The language appears to be hiding an underlying concern. Dr. Clegg said that there was no underlying concern and he agreed to reword that sentence.

Referring to page 16, lines 45-47, the sentence beginning with "The ultimate use of the products...," Dr. Duke noted that it is implicit in LTGs 2 and 3 that the program has some responsibility for furthering the use of the products. Dr. Clegg said that he was concerned about the PART review. To what extent are other groups within EPA responsible for the outcomes? The answer to that question is not clear, but the subcommittee wants OMB to recognize that it is not the sole responsibility of the program. The subcommittee members thought that the program was being asked to do things that might undermine its ability to meet other responsibilities. The purpose of the paragraph is to point out that ORD is just one component of a larger organization.

<u>Comments on Leadership</u>. Dr. Johnson noted that there was no response to Questions 6b, 6c, and 7 in this section. The report should include a statement as to why these questions were not addressed. Dr. Clegg thought that the answers to these questions were implicit in the other responses. If so, Dr. Duke suggested that the heading be changed to Question 6a-6d rather than just 6a. Dr. Clegg said that some questions were not addressed because the subcommittee did not have enough information to prepare a specific answer. Ms. Kowalski asked if it is because the information does not exist or if it was not provided to the subcommittee. Dr. Clegg replied that it would have been more helpful if the materials and the presentations/posters addressed the charge questions. Because they were not tailored to the questions, the subcommittee had to synthesize answers from the materials received and presented. He added that he thought there were too many charge questions and in some cases the questions were too detailed for the level of review that is conducted by the BOSC. Ms. Kowalski asked if the subcommittee needed additional information from EPA to complete the report. She commented that the report will appear to be incomplete if there is no response to certain charge questions. She asked Dr. Clegg to let her know if more information was needed.

Dr. Duke stated that the word "not" should be inserted in the last sentence (line 48) on page 19 between the words "was" and "apparent." Also on page 19, line 8, Dr. Lambert suggested adding the words "including the general public," after the word "stakeholders."

<u>Comments on Collaborations</u>. Dr. Duke said that the response to Question 6b leads him to ask about the nature of the processes and mechanisms. Dr. Clegg replied that the subcommittee had some idea of the current processes and mechanisms. Referring to page 23, lines 36-37 about convening broad-based user groups, Dr. Duke pointed out that other agencies, such as the National Oceanic and Atmospheric Administration and the U.S. Geological Survey, have good models for convening user groups. Dr. Clegg did not think that information should be included in the report because the subcommittee members were not privy to it. Dr. Johnson agreed that it should not be added to the report.

<u>Comments on Resources</u>. Dr. Clegg said the "Historical" and "Anticipated" headings should be deleted on page 24. Dr. Lambert suggested adding the words "and communicating" after the words "job of documenting" on page 24, line 21. Dr. Sayler thought the word "substantial" should be replaced with the word "measured" on page 24, line 12. Dr. Clegg agreed to make this change. Dr. Lambert suggested adding to the last paragraph on page 24 (lines 26-28) a statement that the STAR program allows the Ecological Research Program increased flexibility to explore new research and technology and to address emerging problems.

Dr. Duke proposed that the words "at the time of this review" be inserted after "not yet finalized" on page 25, line 41. Dr. Sayler noted that Figures 2 and 3, first mentioned on page 25, are labeled Figures 1 and 2 on page 30. Dr. Lambert thought that federal government decision makers should be added to the list of customers on page 25, line 14. Dr. Johnson also suggested deleting the word "local" so that the sentence would read "Other important customers include federal, state, and tribal governments and decision-makers."

<u>Comments on Findings and Recommendations</u>. Dr. Johnson thought it might be helpful to mention in the opening paragraph on page 27 that the findings and recommendations are organized by the LTGs. Dr. Lambert noted the use of "good to high quality" on page 27, line 4. He suggested rewording the sentence to say that the program overall is of high quality but could be improved. Dr. Johnson said that the use of the phrase "good to high quality" could be explained in the cover letter. He will give some thought to the best way to explain this.

Dr. Harding asked for clarification of the following sentence on page 27, lines 41-44: "This is essential to achieve EPA's mandate, but EPA must be aware of the dangers of asking a very good research organization to take on responsibilities that it is not structured to accomplish, such as the misdirection of priorities resulting in substantial damage to an effective organization." Dr. Clegg responded that the subcommittee was trying to highlight the fact that ORD is just one component of a larger organization. Where does ORD's responsibilities end and those of the other parts of EPA begin? In the PART review, the Ecological Research Program was judged by OMB using criteria that should be applied to the entire Agency. ORD should not be held responsible for activities that should be performed by other parts of EPA. Dr. Johnson asked that Dr. Clegg reword the sentence so that the intent of the subcommittee is clear.

Dr. Duke said he was struck by the statement "Somewhere within EPA, but not necessarily within ORD, there needs to be a focus on better integration of scientific results into stakeholder education and decision-making" on page 29, lines 25-27. This important statement should be highlighted in the report.

Dr. Lambert suggested deleting the word "permanent" on page 29, line 33. Dr. Clegg responded that the subcommittee is trying to make the point that if the reductions are long-term, then the Agency needs to take a different strategy for managing the reductions. Dr. Lambert said that it would be better to delete the word "permanent" and add "long-term" between "cost-effective" and "strategy" in line 34. Dr. Johnson did not think this change was necessary.

Preparation of the Final Report

Dr. Clegg asked about the timeline for completing the changes and finalizing the report. Dr. Johnson responded that he hoped to finalize the report and approve it pending acceptance of the responses to the charge questions that have not been answered. Dr. Clegg commented that if he has to reconvene the subcommittee to prepare responses to those questions, it will delay completion of the report. Dr. Johnson agreed and suggested that Dr. Clegg pursue a more expeditious solution. He noted that it would be helpful if EPA targeted its presentations and posters for future reviewers to respond to the charge questions. Ms. Kowalski stated that the BOSC can request additional information from EPA to respond to the remaining questions. She indicated that Dr. Clegg did not need to convene a public meeting of the subcommittee if the members send their comments directly to him. Dr. Clegg agreed that the only substantive issue remaining is how to handle the questions for which there is no response in the report. He agreed to contact the work group members who prepared those sections and ask them why they did not respond to specific questions. The reason for the lack of response will be added to the report. Dr. Johnson supported this approach. Dr. Clegg reminded the BOSC that the subcommittee was asked to complete the review within a very short timeframe. Ms. Kowalski requested that Dr. Clegg ask the work group members if they requested the information needed to respond to the questions. She stressed the importance of distinguishing between the information being unavailable or not requested by the subcommittee. Dr. Clegg said that there was a large amount of material provided to the subcommittee, but it was not organized by the charge questions. Dr. Johnson asked Dr. Clegg to query the work groups to determine why certain questions were not answered. The responses of the work groups will be added to the report.

Dr. Johnson mentioned that he did not solicit comments from EPA during the call and noted that EPA staff will have an opportunity to comment on the report after it is submitted to the AA/ORD. He asked that EPA staff point out any factual errors in the draft report so that they can be corrected before it is submitted to the Agency. No comments were received during the call regarding factual errors.

Dr. Johnson commended the subcommittee on its excellent work and indicated that the lessons learned identified by Dr. Clegg would be incorporated into the list begun by Dr. Harding, who chaired the subcommittee that completed the first program review.

Ms. Kowalski asked about the timeline for completing the report. Dr. Johnson asked Dr. Clegg to incorporate the changes by May 8 and send the revised report to him via e-mail. Drs. Johnson and Duke agreed to send their notes to Dr. Clegg later today. Ms. Kowalski noted that any substantive changes must be discussed in a public forum; editorial changes, however, did not have to be discussed. It was agreed that the only change that may not be editorial is the

responses to the charge questions that have not been answered yet. If the work group submits a substantive response, it must be reviewed in a public forum. If the work group indicates that the information was not available, the response would not be substantive and would not require discussion in a public forum.

Dr. Johnson adjourned the conference call shortly after 3:00 p.m.

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BOARD OF SCIENTIFIC COUNSELORS EXECUTIVE COMMITTEE MEETING AGENDA

Thursday, May 5, 2005 1:00 p.m. – 3:00 pm Eastern

CONFERENCE CALL Participation by Teleconference Only

1:00-1:10 p.m.	Welcome and Overview - Purpose of Teleconference Call	Dr. James H. Johnson, Jr. Chair, BOSC Executive Committee
1:10 – 1:15p.m.	DFO Remarks	Lori Kowalski, Office of Research and Development
1:15-1:35 p.m.	Ecological Subcommittee Draft ReportOverviewDraft responses to charge questions	Dr. Michael Clegg, Chair, Ecological Subcommittee
1:35-1:50 p.m.	Discussion	Dr. Clifford Duke, BOSC Executive Committee/Dr. George Lambert, BOSC Executive Committee Liaison
1:50-2:00 p.m.	Public Comment	
2:00 – 2:45 p.m.	Discussion (Continued)	Dr. Clifford Duke, BOSC Executive Committee/Dr. George Lambert, BOSC Executive Committee Liaison
2:45 – 3:00 p.m.	Final ReportIdentification of Additional ChangesApproval by Executive Committee	Dr. James H. Johnson, Jr. Chair, BOSC Executive Committee
3:00 p.m.	Adjourn	